Abstract of the Disclosure

The present invention relates to a LO-CD2a antibody and methods of using such antibodies or molecules that bind to the same epitope (or a portion thereof) to prevent and inhibit an immune response in human patients, preferably, where the immune response is mediated by the activation and proliferation of T cells or natural killer cells. The administration of an effective amount of the LO-CD2a antibody to a human patient will prevent or inhibit graft rejection, graft versus host disease or autoimmune disease.